

COMMERCIAL HEAVY DUTY GAS FRYER



MODEL NOS. FMS-W/STAINLESS STEEL TANK FMP-W/MILD STEEL TANK

FMS-30	FMS-40	FMS-65
FMP-30	FMP-40	FMP-65

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STANDARD FEATURES:

- Quality construction
- Heavy duty 18 gauge Stainless Steel Unibody Construction for long life.
- Choice of 16 gauge Stainless or 14 gauge Mild Steel Tank Heliarc Welded for leakproof operation.
- 16 gauge Stainless Steel Heat Tube exchangers for maximum heat transfer.
- Heavy duty cast iron burners.
- 1 ¼" ball type drain valve slanted for fast draining of fats.
- Designed for maximum accessibility and service.
- Large foaming area.
- Automatic temperature control.
- Precision Thermostat for soggy-free frying.
- Super fast heat up and recovery seals and cooks food to perfection.
- Design certified by A.G.A. . NSF Listed . MEA Listed

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

THIS INSTALLATION MUST CONFORM WITH LOCAL CODES, WITH THE NATIONAL FUEL GAS CODE, ANSI Z223.1 (LATEST EDITION), NATURAL GAS INSTALLATION CODE, CAN/CGA - B149.1, OR THE PROPANE INSTALLATION CODE, CAN/CGA - B149.2 AS APPLICABLE.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLATING OR SERVICING THIS EQUIPMENT.



CECILWARE CORPORATION

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N064A 7/99

**FOR YOUR SAFETY
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SAFETY PRECAUTIONS

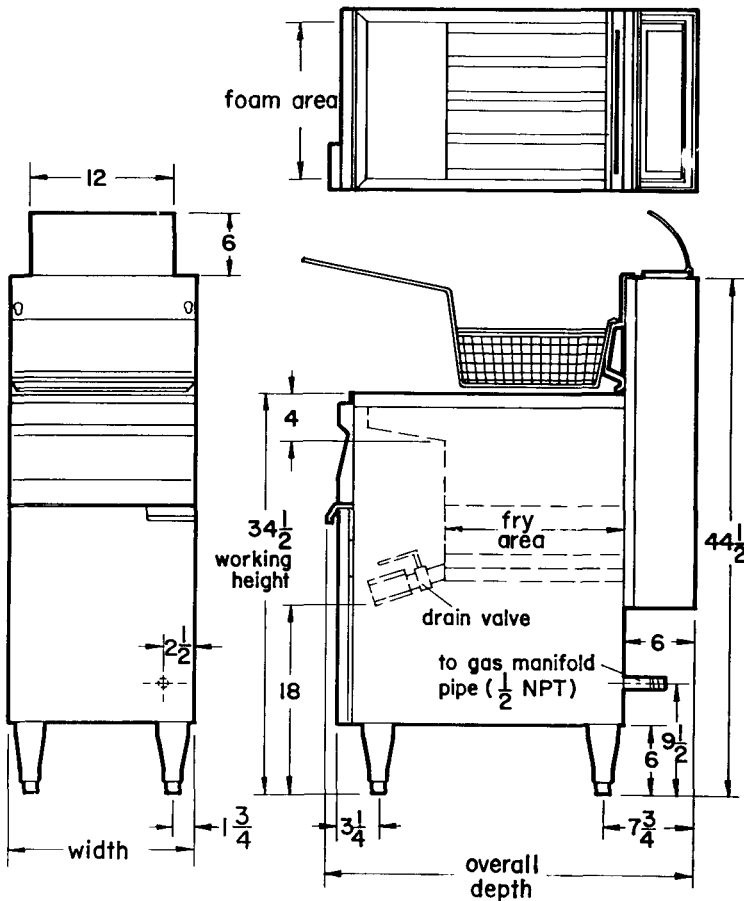
FOR YOUR SAFETY, THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE FOLLOWED AND ENFORCED.

1. Instructions must be posted in a prominent location and all safety precautions taken in the event the user smells gas. Obtain this information from your local gas supplier.

IF YOU SMELL GAS:

- | | |
|------------------------------------|---------------------------------------|
| 1. OPEN WINDOWS | 3. EXTINGUISH ANY OPEN FLAMES |
| 2. DON'T TOUCH ELECTRICAL SWITCHES | 4. IMMEDIATELY CALL YOUR GAS SUPPLIER |

2. LIGHTING - Follow the instructions on page 4 and on label attached to inside of fryer door.
3. Do not place anything over the flue opening.
4. Do not place combustibles or non-combustible materials in the vicinity of the fryer as this could cause fires or obstruct air to the main burners.
5. This installation must conform with local codes, or in the absence of codes, with the National Fuel Gas Code, ANSI Z223.1 (latest edition), Natural Gas Installation Code. CAN/CGAB 149.1, or the Propane Installation Code, CAN/CGAB 149.2 as applicable.
6. Provide adequate air supply and ventilation.
7. Provide adequate clearance for air openings into the combustion chamber.
8. Provide clearance for servicing and proper operation. Minimum clearance from combustible construction 6" from back and 6" from side.
9. Fryer must be disconnected from gas supply during any pressure testing of pipelines in excess of 1/2 psig, and isolated (by turning off manual gas shut-off valve) during any testing equal to or less than 1/2 psig.
10. Retain this manual for future reference.



SPECIFICATIONS			
GENERAL SPECIFICATIONS			
Plain Steel Tank	FMP30	FMP40	FMP65
Stainless Steel	FMS30	FMS40	FMS65
General Data			
Width	13 3/4"	5 1/2"	20"
Overall Depth	30 7/8"	30 7/8"	35 1/4"
Working Height	34 1/2"	34 1/2"	34 1/2"
Overall Height	44 1/2"	44 1/2"	44 1/2"
Fat Capacity (min.)	30 lbs.	40 lbs.	70 lbs.
Fry Area	12 x 22"	13 3/4 x 22"	18 1/4 x 28"
Basket Size	12x12 1/2"	13 3/4 x 15"	18 1/4 x 19"
Basket Size	11 1/4 x 5 1/2 x	12 1/8 x 6 1/2 x 5	17 x 8 1/2 x 5 3/4"
Shipping Weight	4 170 lb.	200 lb.	260 lb.
Shipping Cube	14cu.ft.	14cu.ft.	21 cu. ft.
Size Gas Connection		1/2" I.P.S.	
GAS SPECIFICATIONS			
Type Gas	Manifold Pressure		
Natural —	3.5 in. w.c.		
Propane —	10.0 in w.c.		
Total Input			
BTU/HR			
Natural or Propane	80,000	115,000	135,000
This Fryer intended for other than household use. Design certified for use on combustible floor. Clearance for combustible construction 6 inches from side 6 inches from back.			

SECTION A - INSTALLATION AND OPERATING INSTRUCTIONS

A1 - **Unpacking** - With the container upright cut the plastic straps around shipping container and lift off top, exposing the Fryer. Check Fryer for any visible damage due to exceptionally rough handling during shipping. Report damage to the delivering Freight Carrier within 15 days of delivery.

A2 - **Accessories shipped in the vessel include:**

- 1 - Basket Hanger
- 2 - Baskets
- 1 - Drain Pipe Extension
- 4 - 6 inch Adjustable Legs

Accessories available as optional:

- 1 - Cover
- 1 - Twin Basket
- 4 - Swivel Casters
- 1 - Quick Disconnect Connector 24" and 36"
- 1 - Restrainer

A3 - **Mounting of Legs or Casters** - Carefully tip Fryer up on its back and screw legs or (optional) casters into the threaded base of Fryer. When installing casters make sure the swivel lock casters are mounted towards the front of Fryer. A high strength Restrainer and Quick disconnect Gas Connector must be installed when casters are used. Avoid putting any strain on rear legs or casters when tipping Fryer back to an upright position.

A4 - **Pre-installation Instructions** - The installation of your Fryer must be made by a licensed plumber and the installation must conform with Sate and Local Codes, with the National Fuel Gas Code, ANSI Z223.1 (latest edition), Natural Gas Installation Code, CAN/CGA-B149.1, or the Propane Installation Code, CAN/CGA-B 149.2 as applicable.

A5 - **Air Supply and Ventilation** - Adequate ventilation and air supply must be provided in order for the Fryer to operate properly and efficiently. The area in front of and above the Fryer must be clear to avoid any obstruction of flow of combustion and ventilation air. **Do not**, under any circumstances, connect the Fryer flue directly to a building exhaust system or place the flue outlet directly into the plenum of the exhaust hood as it will adversely affect the gas combustion of the Fryer.

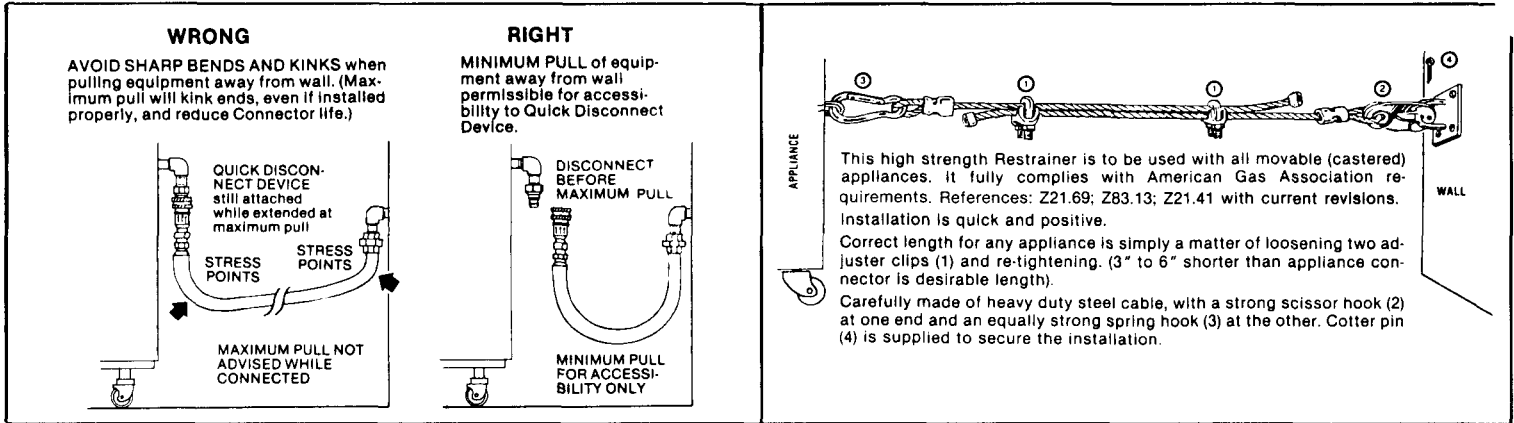
The vent system should be of such design as to allow easy access for cleaning and degreasing on a regular basis in order to prevent fires. An automatic fire extinguishing system should be an integral part of the vent design. Since the temperature of the flue gases emanating from Fryer flue can reach 1200 ° F, temperature sensing devices of the automatic fire extinguishing system must be sized accordingly and located so as to avoid premature turn-on. The minimum vertical distance from the top of Fryer flue to vent system filters should be **18** inches or more.

A6 - **Clearances** - Your Fryer is design certified for use on combustible floors. The minimum clearances for combustible and non-combustible construction are as follows: 6 inches from SIDE and 6 inches from BACK. Fryer must be installed with 6 inch high legs or casters (optional). At least 16 inches clearance must be provided between the frying surface of the Fryer and the surface flames from any adjacent cooking equipment.

A7 - **Gas Connection** - Before connecting Fryer to gas line, check the rating label on inside of door panel to make sure that the gas type called for on label coincides with the type of gas available on site. A 1/2 inch NPT gas pipe connection is provided at the rear of Fryer. An accessible manual shut-off valve must be installed in the gas supply line ahead of the fryer for future service. The size of the supply pipe must be sized to accommodate all the gas fired equipment that may be connected to the gas supply. Check with your local Gas Company as to proper pipe size. Only pipe sealant resistant to action of LP. gas should be used on pipe joints. Before attempting to light fryer check joints for gas tightness using a soap and water solution. Do not use an open flame.

A8 - **Flexible Gas Connectors and Restraints** (See illustration 1) - For Fryers equipped with casters, installation shall be made with a Connector that complies with the Standard for-Connectors for movable Gas Appliances ANSI Z21.69 or CAN/CGA-6.16 and a Quick-Disconnect Device complying with Standard for Quick-disconnect Devices for use with Gas Fuel ANSI Z21.41 or CAN1-6.9. Adequate means shall be provided to limit the movement of Fryer to prevent undue strain on the Connector or Quick-disconnect Device. A high strength Restrainer and proper size Quick-disconnect Gas Connector conforming to above ANSI and/or CAN/CGA standards should be ordered from Fryer Manufacturer in conjunction with NSF approved casters. If disconnection of the Restraint is necessary for servicing of Fryer, the Restraint must be reconnected after appliance has been returned to its originally installed position.

**ILLUSTRATION 1 - Installation of Quick Disconnect
and High Strength Restrainer.**



USER INSTRUCTIONS

IMPORTANT - DO NOT ATTEMPT TO LIGHT OR OPERATE FRYER WITHOUT THE PROPER LEVEL OF FRYING FAT (OR WATER) IN TANK, AS SERIOUS DAMAGE WILL RESULT.

SECTION B - START UP PROCEDURE

B1 - **Getting Ready to use Fryer** - make sure that all the steps of Section A are completed. Verify that gas is available up to Fryer.

B2 - **Filling and Draining of Fryer Tank** - Close Drain Valve (red handle in horizontal position) and fill initially with water to the oil level line (hot or cold water can be used). When draining tank allow hot content to cool to safe handling temperature.

B3 - **Start-up Lighting and Operating Instructions:** (See Illustration 2)

1. Turn red Thermostat Knob D counter-clockwise to its lowest or off position.
2. Partially depress and turn Control Gas Cock Dial A to "OFF" position.
3. Wait five (5) minutes to allow gas which may have accumulated in the main burner compartment to escape.
4. Turn Gas Cock Dial A to "PILOT" position.
5. Depress Gas Cock Dial A and light pilot C. Hold in depressed position for approximately 1/2 min. or until pilot remains lit when dial is released.

NOTE: Sufficient time must be allowed for a proper size pilot flame to heat the pilot thermocouple which holds the safety magnet in a locked-up position. Also, time must be allowed for air to escape from the lines during first operation.

6. Release Dial and turn to full "ON".

NOTE: Steps 7-13 help to check burner operation, initial thermostat calibration and clean the vessel.

7. To operate main burners rotate Red Thermostat Knob clockwise to 225° F or just above the boiling point of water.

IMPORTANT: DO NOT TURN ON MAIN BURNERS UNLESS FILLING INSTRUCTIONS WERE COMPLETED. NEVER OPERATE FRYER WITHOUT THE PROPER LEVEL OF LIQUID (OIL OR WATER) IN VESSEL OR SERIOUS DAMAGE WILL RESULT AND CONSEQUENTLY WILL VOID THE WARRANTY.

8. When water comes to a boil turn the Red Thermostat Knob back to 200° F. The burners should turn off.
9. If pilot becomes extinguished, repeat above procedure.
10. For stand-by periods, turn Gas Cock Dial A to "PILOT" position.
11. To shut Fryer down, partially depress and turn Gas Cock Dial A to "OFF" position and turn Thermostat to its lowest or off position.
12. Drain the vessel by means of the Drain Valve and Extension Pipe provided. Use caution when draining hot vessel.
13. Remove Extension Pipe. Wipe away any remaining water from vessel and drain. Close Drain Valve and proceed to "Normal Daily Operation". If the latter is not convenient at this time, apply a protective coating of salt-free shortening to vessel surfaces. (Applies to FMP-30 and FMP-40 Fryer with steel tanks only).

SECTION C - NORMAL DAILY OPERATION

Follow this procedure after Fryer has already been started up for the first time or after Fryer has been shut down for maintenance.

C1 - Filling the Vessel for Frying: Close Drain Valve and fill to proper level (Oil level) with frying fat. If solid shortening is used, be certain shortening is pre-melted; if not, shortening must be packed tightly around the Heat Transfer Tubes before any attempts are made to turn on Fryer. Never attempt to melt a solid block of shortening by setting it on top of the Heat Tubes. Loosely packed solid shortening will create air voids around Heat Transfer Tubes of Fryer. When fired up, tubes will become red hot and in turn will cause shortening to scorch and burn creating a possible fire hazard. The safest way to melt solid shortening gradually is by turning burners "ON" for 5 seconds, then quickly "OFF" for 15 seconds. This procedure to be repeated until the tubes are covered with melted shortening. If any smoke is noticed during this melt cycle procedure, shorten the burner "ON Cycle". Replace Crumb Screen over tubes when melted shortening has reached the "OIL LEVEL" line.

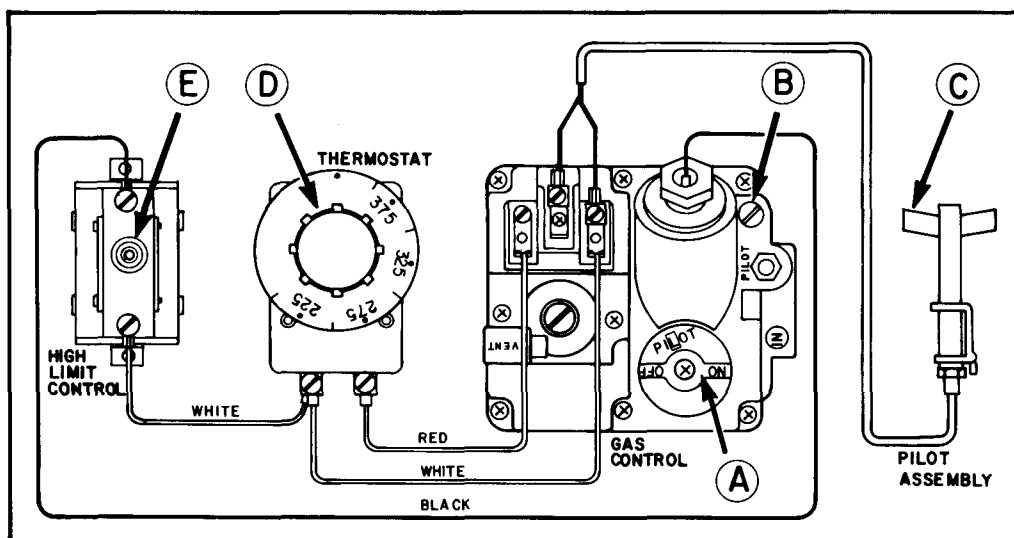
C2 - Lighting Instructions: Follow the instructions on data label attached to inside Door Panel or as outlined in Section B3 of this manual.

C3 - Fryer Operation: Set the Thermostat Knob to desired frying temperature and allow shortening to pre-heat (75° F to 350° F in 7 minutes). The Burners are thermostatically controlled and will cycle on and off to maintain correct frying temperature. The "Safety Pilot" will remain lit until the gas is shut off.

C4 - Special Hi-Limit Safety Control: Your fryer is equipped with an over-temperature or Hi-Limit Control which will trip and automatically shut down the Burners should operating temperatures exceed 460° F (due to operating thermostat out of calibration or low oil level in tank). To re-set Hi-Limit Control wait 30 minutes to allow fat to cool down or add additional cool oil or shortening for faster response; then push red pin E on Hi-Limit Control and relight pilot following steps (1) thru (8) in Section B3.

C5 - Shut-down and Draining: For temporary shut down turn thermostat to lowest or off position; then turn Gas Cock Dial to "PILOT" position. To shut fryer down completely, partially depress and turn Gas Cock Dial to "OFF" position. When draining tank, allow shortening to cool to a safe handling temperature.

ILL.2a GAS CONTROL WITH DX THERMOSTAT & BMVR VALVE



SECTION D - MAINTENANCE

D1 - **Daily:** 1) Shut down Fryer as per Section C5. Drain completely (using Drain Pipe Extension) into clean suitable container or filter pump.
 2) Detach Basket Hanger Bracket, remove screen and wipe clean with cloth.
 3) Flush out any remaining sediment in tank using some hot oil. Wipe off and clean fry kettle.
 4) Close Drain Valve and strain shortening back into fryer using several layers of cheese cloth or filtering thru an oil pump equipped with a Micro-Flo filtering system. Replace Crumb Screen, Basket Hanger Bracket, detach Drain Nipple and Fryer is ready for next operation.

D2 - **Weekly:** Repeat daily maintenance procedure up to point (4). Close Drain Valve and clean vessel thoroughly with a deep fat fryer cleaning compound and hot water. Drain and rinse thoroughly. Wipe dry with a clean cloth. Clean exterior stainless steel surfaces of body with stainless steel cleaner. Do not use abrasive cleaners or steel wool.

D3 - **Periodic checks:** Temperature of frying compound. Set thermostat knob to 350° F. Place a fryer thermometer in fat (1 1/2 inches) and observe reading when burner goes out. Compare reading. If the temperatures do not coincide within 5°F, have qualified service person calibrate thermostat. See Adjustment Procedure, Section E below. Clean unit and dirt off air shutters and main burners. After long period burners and pilot should be cleaned for proper ignition and burner flame efficiency.

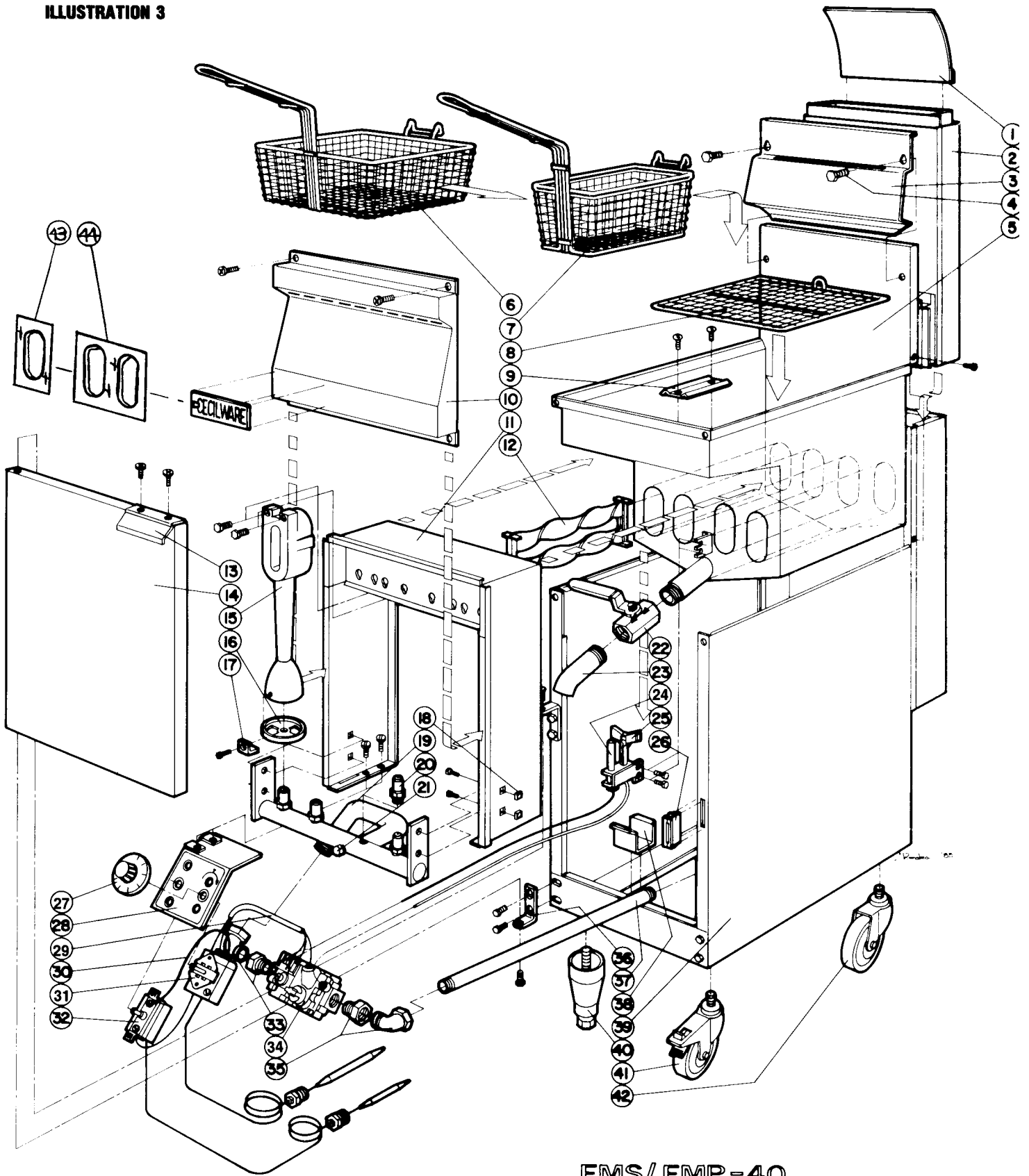
D4 - **Outside Service:** Should you require help contact the factory, your factory representative, or your local service company.

REPLACEMENT PARTS LIST

Item #	Description	Part#	Item#	Description	Part#
		FM30 FM40 FM65			FM30 FM40 FM65
1	Flue Deflector Plate	U613Q U5800 U623Q	28	Thermostat Bracket	U572V U572V U572V
2	Flue Box Assembly	T6330 T525Q T655Q	29	Thermostat Harness Ass'y.	C946Q C946Q C9460
3	Basket Support Bracket	T623V T536V T644V			
4	Basket Support Fastener	P281A P281A P281A	30	5" Hi-Limit Wire Ass'y	C945Q C945Q C945Q
5	FMS-Fry Tank (S/S)	T621H T475H T641H	31	Thermostat, KX-	L345A L345A L345A
	FMP-Fry Tank (C.R.S.)	T622H T531H T638H			
6	Fry Basket - Large (Optional)	V175A	32	Hi-Limit Control	L346A L346A L346A
7	Fry Basket - Small	V178A V174A V180A	33	¾" F x ¾" Union Elbow	K158A K158A K158A
8	Crumb Screen	V177A V172A V179A	34	Gas Control (Natural) MVR	L347A L347A L347A
9	Bulb Clamp	U567A U567A U567A		Gas Control (Propane) MVR	L348A L348A L348A
10	Front Fascia Assembly	U612Q U5580 U621Q			
11	Burner Support Assembly	T632Q T541Q T646Q	35	½" F x 'A' Union Elbow	K204A K204A K204A
12	Burner Tube Baffle	U6170 U5550 U637Q	36	Door Hinge	U579V U579V U579V
13	Door Handle	M224A M224A M224A	37	½" Gas Inlet Pipe	J064A J063A J064A
14	Front Door Assembly	T628Q T534Q T6500	38	Drain Pipe Holder	U581V U581V U581V
15	Gas Burner	G224A G224A G224A	39	Cabinet Assembly	T625Q T5370 T625Q
16	Air Burner Shutter	F167A F167A F167A	40	Adjustable Leg (1 Leg)	M219A M219A M219A
17	Air Shutter Clamp	U574A U574A U574A	41	Swivel Caster with	M015A M105A M015A
18	Nut Retainer	P284A P284A P284A		Locking Device (Optional)	
19	Burner Manifold	F010A F009A F011A	42	Swivel Caster (Optional)	M014A M014A M014A
20	Brass Gas Orifice (Natural)	F166A F166A F166A	43	Flame Shield (one tube)	T777A — T777A
	Brass Gas Orifice (Propane)	F225A F177A F225A	44	Flame Shield (two tubes)	T776A T776A T776A
21	Brass Plug	K044A K044A K044A		Quick Disconnect Flexible Hose (Optional):	
22	Drain Valve	D048A D048A D048A		¾" x 36" (167,000 BTU/HR cap. @ > 0-5" W.C.	F189A
23	Drain Pipe	J062A J062A J062A		¾" x 36" Hose with Thermal Shut-off	F191A
24	Thermopile TP-75	F178A F178A F178A		¾" x 48" (156,000 BTU/HR. Cap. @ 0-5" W.C.	F190A
				¾" x 48" Hose with Thermal Shut-off	F192A
25	Pilot Burner Assembly (Nat.)	F179Q F179Q F179Q		Restraining Device - adjusts up to 48" (optional)	P2880
	Pilot Burner Assem. (Propane)	F180Q F1800 F180Q		Fry Tank Cover (optional)	FM30 U630Q
26	Magnetic Catch	U008A U008A U008A			FM40 U5890
27	Thermostat Knob (KX cont.)	M099A M099A M099A			FM65 U641Q

Flame Shields (not shown): T776A For two tubes - side by side
 T777A For one tube

ILLUSTRATION 3



FMS/FMP-40
DEEP FAT FRYER

SECTION E • ADJUSTMENTS (See Illustration 2) "FOR QUALIFIED SERVICE PERSONNEL ONLY"

Note: Only for qualified service personnel specializing in Hotel and Restaurant Cooking Equipment. Factory approval required prior to any warranty repairs.

E1 - Safety Pilot: Remove Pilot Adjustment Cap (B) and turn Adjustment Screw to provide properly sized flame (3/4 inch long). Replace Cap and leak test with Soap solution. Tighten cap if necessary.

E2 - Burners: Burners are factory set for maximum performance. Should further adjustment be required loosen Slotted Hex Screw on side of Venturi and rotate air shutter until flame with soft blue inner cone is obtained. Remove any lint accumulated if necessary.

E3 - Thermostat Calibration: Turn thermostat knob to 375°F and remove knob without moving thermostat shaft. Place narrow bladed screw driver (1/8") into hollow thermostat shaft and engage center adjustment screw. When thermometer reading approaches 375°F slowly turn the adjustment screw clockwise until burners go out. Turning the screw counter-clockwise will increase the temperature. NOTE: One quarter turn will change temperature setting approximately 25 °F. Replace knob and check temperature thru 3 cycles. Repeat adjustments if necessary until knob setting is correct within a few degrees.

TROUBLE SHOOTING GUIDE - For Qualified Service Persons Only

E4 - Troubleshooting Guide

Problems	Cause	Remedies
A. Pilot will ignite but will not remain alight when Gas Cock Dial is released.	1) Loose electrical connection at Hi-Limit Switch, Gas Control Valve or Thermostat 2) Pilot flame too low 3) Dirt in pilot 4) Excessive draft caused by exhaust, air conditioner or make-up air equipment. 5) Thermocouple defective	1) Retighten connections (see illustrations 2 and 2a) 2) Relight and adjust (as per instructions in Section E) 3) Remove pilot burner orifice, blow out dirt, replace and relight pilot burner. 4) Reduce draft by regulating or diverting air flow. 5) Replace Thermocouple
B. Main Burners will not fire with supply gas valve open and incoming gas present.	1) Loose electrical connections at thermostat Switch or Gas Control Valve. 2. Defective thermostat Switch, Gas Control Valve or GS-7 hemostat.	1) Retighten connection (see illustrations 2 and 2a) 2) Replace in that order.
C. Main Burners and Safety Pilot go out after fryer has reached operating temperature.	1) Hi-Limit Safety Switch cut-out due to out of calibration Thermostat.	1) Recalibrate Thermostat as per instructions in Section E3. If temperature is OK replace Hi-Limit switch and light pilot.
D) Main Burners do not come up to full power, flames appear lazy. Takes too long to reach operating temperatures.	1) Gas pressure drop. 2) Defective or incorrect Gas Control Valve	1) Check gas manifold pressure by removing Vs inch NPT Plug and measuring pressure using U-Gauge Manometer. With Burners on, pressure should read 3.5" W.C. for NAT and 10.0" W.C. for PROP gas. Check Supply line sizing. See Section A "Gas Connection". 2) Replace Gas Control Valve. (See illustrations 2 and 2a).
F. Frying temperature too high - shortening scorches and discolors quickly.	1) Thermostat set too high. 2) Shortening contaminated or of low quality	1) Check temperature of shortening and adjust Thermostat (as per instructions in Section E.) 2) Filter or strain shortening. Use higher grade shortening.